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CIVIL RESERVE INFORMATION SYSTEM (CRIS): AN INFORMATION MISSION AREA ALTERNATIVE

BY

Colonel Walter H. Thompson, Jr.
United States Army

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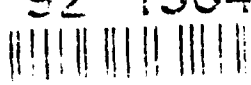

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CIVIL RESERVE INFORMATION SYSTEM (CRIS): AN INFORMATION MISSION AREA ALTERNATIVE

AN INDIVIDUAL STUDY PROJECT

by

Colonel Walter H. Thompson, Jr.
United States Army

Colonel Patrick T. Thornton
Project Adviser

U.S. Army War College
Carlisle Barracks, Pennsylvania 17013

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ABSTRACT

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INTRODUCTION

The world has changed and the evolution is continuing. The post-World War II division of Europe has all but ended. Germany has reunited, beginning a period of healing and democracy-building throughout Eastern Europe. The former USSR has dissolved, effectively ending the Cold War. The newly formed Commonwealth of Independent States is in the midst of political and economic transformation into some form of democracy. The uncertain relationship between the former republics of the Soviet Union raises concerns about control of the once powerful and now fragmented armed forces with their 20,000-plus nuclear weapons, but the Soviets are no longer the overwhelming threat that was the focus of U.S. military planning for the past four decades.

While our nation downsizes and restructures its military forces in response to the changing environment, the United States Army Signal Center and the United States Army Information Systems Command (USAISC) are proposing to the Department of Defense, the concept of a Civilian Reserve Information System (CRIS) to provide emergency crisis-response commercial information management support to augment service-owned systems. The program would work similar to the Civilian Reserve Air Fleet (CRAF) to meet Information Mission Area (IMA) service requirement shortfalls. The USAISC proposes that they be the program manager.

The fact is the mechanisms for such a program already exist and with slight modifications, the program can be functioning effectively. This paper will examine the concept of a CRIS, comparing it to CRAF; will highlight the need for such a program

using experiences from the recent Gulf crisis; will describe the advantages that accrue from such a program; and will show how the program can be easily implemented. Recommendations for who should have proponency will be provided along with the rationale for these recommendations.

In order to understand why this is an opportune time for a concept such as CRIS, it is necessary to understand the changes taking place in the world and how they affect the Department of Defense (DoD). The following section will highlight some of these changes and provide background for the introduction of the concept.

BACKGROUND

As the world changes, so must the United States and its military forces. To fill the void created by the demise of the Soviet Union, President Bush has continued to push for a "new world order". In his 1991 National Security Strategy document, he wrote:

> "A new world order is not a fact; it is an aspiration - and an opportunity. We have within our grasp an extraordinary possibility that few generations have enjoyed - to build a new international system in accordance with our own values and ideals, as old patterns and certainties crumble around us."[1]

Mixed with opportunism is a genuine concern that achieving new world order is a formidable task, despite victory in the Cold War and the Persian Gulf. The President expressed his concerns and goals in the following quote:

> "It is this abiding faith in democracy that steels us to deal with a world that, for all our hope, remains a dangerous place - a world of ethnic antagonism, national rivalries, religious tensions, spreading weaponry, personal ambition and lingering authoritarianism. For America, there can be no retreat from the world's problems. Within the broader community of nations, we see our role clearly. We must not

> only protect our citizens and our interests, but help create a new world in which our fundamental values not only survive but flourish. We must work with others, but we must also be a leader."[2]

In the context of the President's remarks, the focus of U.S. interests are world wide, covering a broad spectrum from survival to peripheral interests. Without attempting to categorize specific interests, the U.S. is concerned about democracy in countries within the Western Hemisphere such as Nicaragua, Haiti, Honduras, Cuba, and Panama. The dissolution of the Soviet Union has had a destabilizing effect on Vietnam, Cambodia, and North Korea caused by the reduction in Soviet economic assistance. Disagreements continue between India and Pakistan. The deterioration in Japanese-American relations and growing U.S. recognition of China has created new problems for the region, as will the closures of U.S. bases in the Philippines. Despite the coalition victory in Desert Storm, the Middle East will continue to be a source of concern. Political unrest in Africa presents its own set of problems for a continent with some of the world's poorest nations as it strives for recognition and competes in the world economy. For the future, the United States' interests will be world wide.

The problem facing the United States military today is to shape our defense capabilities to meet these changing strategic circumstances. With reductions in European and global war threats, our forces must also be reduced and reconfigured to meet regional contingencies and peacetime presence. In January of 1992, "National Military Strategy of the United States" the Chairman of the Joint Chiefs of Staff announced a Base Force for 1995 which

will be significantly reduced from the FY91 force. Reductions included missiles, submarines, aircraft carriers, surface ships, divisions and air wings.[3] Significant reductions were imposed on all Services.

As the major combat forces are reduced, so are support organizations that provide IMA support. The problem is how to restructure the force to meet the challenges of potential world wide deployment to areas lacking the infrastructure and forward based units stationed in Germany, South Korea, Japan, and elsewhere. The new force will be based upon the concepts of forward presence and CONUS-based crisis response. The forces dedicated to presence will be driven by commitments to allies and formal collective security agreements. Crisis response forces must be trained for regional contingencies. It is the deployment of crisis response forces under Combatant CINCs that could generate significant IMA requirements.

As the United States continues its withdrawal of military forces from Europe and the Philippines, contemplates force reduction in South Korea, and prepares for its new role of crisis response, it must realize that operations in countries without developed communications infrastructures pose some unique problems that must be addressed differently than the introduction of additional forces to Europe or Korea. In both Europe and Korea, U.S. military units are provided IMA resources that enhance their mission capabilities. Fully developed military voice and data networks are integrated and compatible with most host nation's

equipment. Motion picture and still photo processing, printing and reproduction are also available in theater. Not only is in-country IMA fully developed, but DoD and commercial systems are available back to the CONUS-sustaining base. War plans are built around the continued operations of U.S. strategic and theater such as the Defense Communications Systems (DCS) and European Telephone System (ETS).

The following section will describe in some detail the CRIS concept. A comparison with CRAF will demonstrate how both provide commercial resources to make up for military shortages. A short presentation of likenesses and differences between CRIS and CRAF is included. The advantages of commercial contracting will be highlighted. The advantages and disadvantages of the concepts are discussed in a later section about concept implementation.

CRIS CONCEPT

The CRIS concept initiated between the Signal Center and USAISC in July of 1991, originally envisioned only telecommunications resources. In September of 1991, the concept was revised to include all IMA services. USAISC conducted research and coordinated with key agencies until December of 1991, when the first concept was drafted. In January of 1992, the Office of the Assistant Secretary of Defense for Command, Control, Communications and Intelligence and the Office of Director of Information Systems for Command, Control, Communications and Computers on the Army staff were briefed on the concept, and action officers were appointed in both offices.[4]

The concept of CRIS is modeled after the Air Force's CRAF program run by Air Mobility Command (AMC). The CRIS program, as proposed by USAISC, would provide for the identification, organization, and development of sources of civilian information systems capable of augmenting military strategic and theater information systems to support peacetime emergencies, contingencies, and wartime operations. CRIS would allow the Services to contract with civilian industries to provide communications, automation, reproduction, photography, and motion picture services. USAISC would be responsible for collecting and analyzing requirements for the sustaining base, tactical and strategic information needs as defined by Combatant CINCs and major Army commands. USAISC would then translate the requirements into a commercial system architecture.

The concept was driven by recognition that the United States military forces required highly flexible and extremely reliable communications and information systems rapidly deployable into areas lacking an extensive, fixed communications infrastructure or service industry. Operation Desert Shield/Desert Storm demonstrated the need for an improved and increased IMA contingency resource capability. USAISC recognized that with a downsized and predominately CONUS-based force tailored to respond quickly to contingencies worldwide, IMA contingency resources were more important than ever. They envisioned the need to have an improved IMA contingency capability that would cost less money, would reduce military manpower, would utilize industry standard state-of-the-art

equipment and would increase efficiency. Commercial satellites used successfully during Desert Shield, such as INMARSAT and INTELSAT, are typical of the types of IMA resources civilian industry could provide to support future military requirements for peacetime and crisis response contingency operations.[5]

IMA services and equipment shortfalls not provided within DoD resources would become candidates for commercial contracting. Under the CRIS concept, USAISC would develop sources of IMA contingency resources within the civilian community and readily available to augment strategic/theater-level military assets in satisfying world wide operational requirements. It would identify businesses willing to commit to providing contingency support that would be contractor owned, contractor operated, and contractor maintained. The emphasis would be on using standard commercial telecommunications, audiovisual, automation, reproduction and printing equipment to supplement, or in some cases, substitute for military owned and operated equipment. The thrust of the program would be to identify excess capacity available on short notice.

The USAISC concept acknowledged the need to coordinate with the National Communications System (NCS) to ensure there would not be a conflict between military augmentation requirements and National Security/Emergency Preparedness (NS/EP) missions. The relationships between NCS and NS/EP are discussed in greater detail later in this paper. It is sufficient to note at this point that some types of services required to support military contingency operations could also be required to augment or restore domestic

telecommunications services in the event of a national emergency. USAISC recognized the concept's need to coordinate some resources at the national level.

USAISC envisions itself as the logical choice to be the lead agency in the CRIS concept just as Air Mobility Command is the lead agency for CRAF. As the provider of information systems for the Department of the Army, it has the capacity to engineer, manage, operate, and integrate support for the IMA. While an engineering and acquisition capacity exists within USAISC, it would require substantial expansion to handle requirements for sustaining base, theater, and strategic information area needs. The CRIS mission would involve collecting and analyzing requirements, converting them into a commercial information systems architecture, locating a source(s), and obtaining a commitment of the resources for specific military contingencies.

In their concept paper, USAISC concluded that a procedural system such as CRIS would accomplish a number of objectives. First, the Army would be satisfying Congressional direction to utilize more non-developmental items (NDI) and commercial off-the-shelf (COTS) products. Secondly, commercial IMA contractors would provide systems of state-of-the-art technology. Thirdly, by developing a system architecture ahead of time, acquisition time would be reduced. Lastly, CRIS would provide an IMA surge capability not presently available.[6]

As mentioned earlier, the concept of identifying civilian commercial resources to supplement military owned and operated

systems is not a novel idea. Back in the 1950's, the Air Force recognized their need for civilian augmentation to accomplish their military mission, and established a relationship with the commercial aircraft industry which was tested for the first time during Desert Shield. An examination of the Air Force's successful solution to a similar problem will lead us to a possible solution to a potential IMA shortfall. The solution is civilian contract services.

The next several paragraphs will examine how the Air Force provides a modern, flexible and responsible air transportation network incorporating military and civilian aircraft. The combination of military strategic airlift assets and civilian contract airline support is responsive in a vast spectrum of requirements in peacetime, crisis, and wartime environments. The program known as Civil Reserve Air Fleet (CRAF) was recommended by President Truman in 1949[7] and established in 1952 by a joint memorandum of understanding between the Department of Defense and the Department of Commerce. The program was the result of recognition that military aircraft alone could not meet the transportation demands of World War II and the Berlin Airlift. Under the CRAF concept, U.S. airlines voluntarily committed aircraft to CRAF to support national security interests when DoD airlift requirements exceed the capabilities of Air Mobility Command (AMC), formerly Military Airlift Command (MAC). By agreement, airlines commit aircraft to three stages of CRAF.

The stages of CRAF reflect various levels of transportation

emergency. During Stage I, the Commander of AMC can activate up to 40 aircraft on 24-hour notice to meet peacetime military airlift requirements. During Stage II, 190 aircraft can be activated by the Secretary of Defense on 24-hour notice, to support a national security crisis short of war. Stage III activated by the Secretary of Defense, the President or Congress under various circumstances to include war, would provide 505 civilian aircraft to augment the military fleet.[8] Under the CRAF agreement, civilian airliners are operated by civilian crews under military control.

In return for participation in the program, airline companies get priority on routine peacetime DoD charters estimated at $100 million. These charters represent 30% of all DoD cargo and 80% of passengers moved in peacetime. During full mobilization, it is estimated CRAF would provide 30% of DoD cargo and 95% of passenger lift.[9]

While CRAF was established almost 40 years ago, it was first activated in response to the Desert Shield build-up in August of 1990. MAC continued normal contracting during the first several days of the build-up, however on 17 August, MAC decided to go a step further.[10] It activated Stage I of the CRAF program under which 16 U.S. airlines were obligated to provide up to 38 wide-body aircraft. MAC used only two dozen aircraft to move troops and supplies to Saudi Arabia and evacuate U.S. citizens from Iran, Kuwait, and Saudi Arabia. MAC did not have to advance the CRAF program beyond Stage I because of the amount of time available for the build-up.[11] The success of the cooperative military and

civilian program was demonstrated by the immediate reinforcement during Desert Shield. By 30 September 1990, less than 45 days into the operation, CRAF carriers had already flown 500 missions carrying more than 66,000 passengers and 22,000 tons of cargo.[12]

The CRAF program was instrumental in the success of the Air Force's strategic mobility mission. The program was the solution for the strategic air lift shortfalls identified during World War II and the Berlin Airlift.

The likeness of the CRIS concept to the CRAF concept can best be seen in the USAISC approach shown below:

CRAF PROGRAM — IDENTIFICATION, ORGANIZATION AND DEVELOPMENT OF A SOURCE OF CIVIL AIRLIFT CAPABILITY READILY AVAILABLE TO AUGMENT THE DOD IN AN EMERGENCY

CRIS CONCEPT — IDENTIFICATION, ORGANIZATION AND DEVELOPMENT OF A SOURCE OF CIVIL INFORMATION SYSTEMS CAPABILITY READILY AVAILABLE TO AUGMENT STRATEGIC/THEATER INFORMATION SYSTEMS IN AN EMERGENCY

CRAF STAGES

CRAF MAY BE INCREMENTED BY STAGES:

* STAGE I - COMMITTED EXPANSION (LONG RANGE INTERNATIONAL AIRLIFT CAPABILITY)

  - AUTHORITY: COMMANDER IN CHIEF MAC - PROVIDES ACTION MESSAGE TO CHIEF OF STAFF AIR FORCE

* STAGE II - DEFENSE AIRLIFT EMERGENCY (ADDED AIRLIFT EMERGENCY NOT WARRANTING NATIONAL MOBILIZATION)

  - AUTHORITY: SECRETARY OF DEFENSE

* STAGE III - NATIONAL EMERGENCY (TOTAL CRAF AIRLIFT CAPABILITY)

  - SECRETARY OF DEFENSE ISSUES ORDER

  -AUTHORITY:

    1. TIME OF WAR - PRESIDENT/CONGRESS (DEFENSE-ORIENTED/NATIONAL EMERGENCY)

    2. NATIONAL SECURITY SITUATION (SHORT OF DEFENSE-ORIENTED NATIONAL EMERGENCY)

    3. PRESUMES SECRETARY OF TRANSPORTATION AUTHORIZED TO EXERCISE PRESIDENTIAL PRIORITIES/ALLOCATION AUTHORITY (USC10)

CRIS STAGES

CRIS MAY BE INCREMENTED BY STAGES:

* STAGE I - COMMITTED EXPANSION (LONG RANGE INTERNATIONAL INFORMATION CAPABILITY)

  - AUTHORITY: COMMANDER ISC

  - PROVIDES ACTION MESSAGE TO CHIEF OF STAFF ARMY

  - COORDINATES ACTIONS WITH THE NCS

* STAGE II - INFORMATION EMERGENCY (ADDED INFORMATION EMERGENCY NOT WARRANTING NATIONAL MOBILIZATION)

  - AUTHORITY: SECRETARY OF DEFENSE

  - ISC TAKES ACTION UPON RECEIPT OF PROPER AUTHORITY FROM SECRETARY OF ARMY

  - EXECUTE ACTIONS IN COORDINATION WITH NCS, CINCS AND MAJOR COMMANDS

* STAGE III - NATIONAL EMERGENCY

  - SECRETARY OF DEFENSE ISSUES ORDER

  - AUTHORITY:

1. TIME OF WAR - PRESIDENT/CONGRESS (DEFENSE-ORIENTED/NATIONAL EMERGENCY)

2. NATIONAL SECURITY SITUATION (SHORT OF DEFENSE-ORIENTED NATIONAL EMERGENCY)[13]

A significant difference between the CRIS concept and the CRAF program is the relationship of the Service to the capability. The Air Force directs the CRAF program because they are the only Service responsible for strategic airlift. The other Services have no strategic assets, therefore have no interest in managing civilian airlift assets. The IMA is common to all services. Each Service has its own IMA equipment, operators, logistics support and funding. The logic of designating USAISC as an operating command of Defense Information Systems Agency (DISA) to perform functions already being performed by that joint DoD agency is questionable. The logic of giving the CRIS mission to the Army is not as clear as the logic of assigning the CRAF program to the Air Force.

Another difference is that CRAF was implemented to establish a formal program when none existed. The CRIS concept is an attempt to establish a new program when a capability already exists in DISA to accomplish the CRIS objective without the establishment of another organizational layer. This difference will be discussed in greater detail later in the paper.

The CRAF program as it exists today offers several advantages over maintaining a larger fleet of military aircraft. The three most significant advantages of the program are that it provides: (1) a strategic airlift surge capability only when required, (2) proficient crews and modern equipment, and (3) a complete service.

The Air Force's current fleet of transport aircraft are adequate to meet the peacetime needs of DoD. The 70-plus C130s, 234 C141s, and 126 C5As handle routine requirements augmented by civilian contract aircraft as required to provide routine movement of military passengers and high priority cargo. If the Air Force had to procure and maintain enough aircraft to meet full mobilization requirements, it would cost the taxpayers billions of extra dollars. Since Desert Storm was the first use of CRAF, it is clearly not necessary to maintain a large fleet of aircraft during peacetime. Thus, the use of civilian aircraft to provide surge transportation is cost effective.

The second advantage of CRAF is related to crew proficiency and equipment currency. The pilots and crews provided by civilian industry are highly trained. They are familiar with FAA and international procedures, and therefore are prepared to fly anywhere with little additional preparation. CRAF aircrafts' state-of-the-art equipment are operated routinely, thus increasing readiness. Like so many other activities, the more frequently a crew flies and the more service an aircraft renders, the greater its reliability. The cost for the Air Force to maintain stand-by transport aircraft and crews would not be cost effective. The Air Force has conducted numerous studies and concluded that it is cheaper to contract civilian aircraft and crews than maintain military air transport capability.

Finally, the CRAF program provides a transportation service, which includes maintenance. The airlines participating in CRAF

provide all aircraft maintenance and servicing at a tremendous savings considering the cost of procuring and storing spare parts, providing maintenance and test facilities, and certifying maintenance technicians. The cost of establishing a maintenance capability worldwide would pose additional manpower and acquisition problems for the Air Force. Civilian aviation companies, on the other hand, must operate maintenance facilities, employ technicians, and maintain spare parts to support their daily commercial operations.

It is difficult to identify disadvantages of the CRAF program since it has never been fully tested through Stage III. However, one obvious disadvantage of the program is it commits civilian airlift capability to the military making it unavailable for other purposes. Even the implementation of Stage I during peak travel seasons could interfere with routine civilian air service, reducing the participating airline's share of the market. In the event of a declared state of national emergency, the Department of Transportation can reduce the number of aircraft available under CRAF, if aircraft are required for use by other organizations under the Federal Emergency Management Agency (FEMA).

The significant advantages of the CRIS program would parallel those of the CRAF program. The CRIS concept assumes the Services will not retain sufficient IMA resources in the Active and Reserve Components to satisfy the requirements. Service IMA shortfalls would be provided by commercial contractors and activated by stages like CRAF. The programmed utilization of civilian IMA contract

services would provide a surge capacity when actually needed to satisfy a specific requirement. The obvious advantage is that the services would be paid for only when they were activated. Based on the IMA capacity available from commercial contractors, the services could reduce expenses by paying for services only when needed.

A second advantage of CRIS is it taps an experienced civilian work force with state-of-the-art equipment that can provide quality services. Using commercial off-the-shelf (COTS) equipment operated by experienced IMA contractors, would provide extremely reliable services. Since contractors provide these services routinely to their commercial customers, their equipment is usually state-of-the-art. Commercial equipment operators may well be more proficient than military operators, given their daily operating experience. Civilian communications companies are better prepared to negotiate with other contractors and host nations IMA companies. While competition may be keen between contractors, they routinely work together to produce systems incorporating the assets of numerous companies.

Finally, like CRAF, CRIS would provide a complete service. The service would include equipment, trained installers and operators, maintenance personnel, diagnostic equipment, and spare parts for a worldwide operation. Many companies providing telecommunications, audiovisual, publications, and records management are international in scope. In many cases, these organizations have worldwide maintenance operations or can put one

together rapidly. By contracting for end-to-end service, the civilian contractor becomes responsible for the entire operation from equipment acquisition to final product quality.

OPERATION DESERT SHIELD/DESERT STORM

The ultimate IMA challenge is supporting a large scale deployment of U.S. forces. A recent example will provide some indication of the types of problems that can be encountered in the IMA when projecting forces into an undeveloped theater. On 2 August 1990, Iraqi forces invaded and seized Kuwait. By 6 August, King Fahd agreed to permit the deployment of U.S. troops. The following day, the 1st Tactical Fighter Wing and elements of the 82d Airborne Division began deploying. In this same time frame, it became evident there were insufficient strategic communications links between Saudi Arabia and the United States. The Defense Information Systems Agency (DISA) began receiving requests from various organizations and agencies for telecommunications services between Saudi Arabia and the United States, and IMA services within country. Knowing DoD could not meet the voice and data requirements to support a large scale deployment in this area of the world, DISA started passing the requirements for services and equipment to the Defense Commercial Communications Office (DECCO) located at Scott Air Force Base, Illinois.

DECCO's challenge was to provide CENTCOM and other agencies command, control, communications and intelligence capability on a scale similar to that provided to defend Europe over the last

several decades. IMA requirements were not only for Saudi Arabia, but were also for other countries throughout the Persian Gulf region in support of the conflict. By 21 December, going to a 24-hour operation, DECCO was able to award 325 contracts for commercial IMA services to support Desert Shield. Total value of the contracts was $2.3 million per month.[14] According to DECCO, "Contracts were awarded to lease nearly 800 circuits--ranging from 3KHz voice grade service to T-1s with supporting satellite earth stations. Industry response to meet requirements in the Persian Gulf was overwhelming!"[15] DECCO success stories included fully manned mobile earth satellite stations that were on site and operational within 72 hours, and T-1 circuit contracts that were awarded within 24 hours and operational within 72 hours. DECCO attributed these success stories to close cooperation between their organization and private industry. Ultimately 2,100 contracts valued at $3.2 million in monthly recurring charges, and $4.6 million in non-recurring charges, were concluded to support Desert Storm. Success during the Gulf War demonstrates the ability and willingness of civilian contracts to provide IMA services to support military contingency operations even in a hostile fire zone.[16]

The process of integrating contractor-provided services and equipment with military operated systems is not a novel concept. Customers supported during Desert Storm included Central Command, Army, Air Force, Navy, Defense Intelligence Agency, Canadian Forces Communications Command, White House Communications Agency, Office

of the Secretary of Defense and various other agencies. The types of services provided were not significantly different than the contract services provided routinely during military exercises or wargaming activities.[17]

There were however, some differences between previous commercial IMA support operations and those provided to support the coalition in the Middle East. The differences were in the volume of services, the willingness demonstrated by contractors to provide services and equipment within a combat zone, as well as the number of civilian companies that participated and their responsiveness. The volume of services is evident in the 2,100 contract actions DECCO initiated in support of Desert Shield/Desert Storm. This does not include civilian IMA resources contracted by many other agencies such as the U.S. Army Commercial Contracting Office (USARCCO) that contracted additional services. The list of vendors who provided IMA contract services included corporations such as AT&T, CONTEL, CODEX, COMSAT, IDB International, ALASCOM, MCI, SPRINT, and others.[18] The relationship between DECCO and many commercial vendors was so well established, many contracts were bid and approved verbally. A long established working relationship cut through the bureaucratic process and expedited actions. Contracted IMA services in many cases were provided within one day of the request. Some contractors were on the ground as early as mid-August providing satellite earth stations in Saudi Arabia.

While there were numerous IMA services success stories in this come-as you-are-conflict, there were also some problems. DECCO

reported the following summary of lessons learned from Desert Shield/Desert Storm:

> "During the initial stages of Desert Shield, individual service requirements into the AOR were fragmented, uncoordinated, and were being implemented by individual MILDEPs without any centralized control. Lack of appropriate contingency plans, and uncertainties regarding duration of deployment for contractor personnel and equipment, hindered consummation of appropriate contracts and identification of associated costs. Lack of appropriate contingency plans or planning complicated the identification of inplace commercial and military communications assets available to satisfy emergency service requirements. Lack of emergency points of contact in government and industry necessary to resolve contractual and technical issues on a real time basis also hampered the timely implementation of services. Commercial vendors lack of knowledge of the AOR, lack of operating agreements, lack of appropriate host nation service extension in country and costs added additional confusion and uncertainty. As Desert Shield transitioned into Desert Storm the above issues and concerns for the most part had been informally addressed and interim solutions devised and implemented that facilitated acquisition and implementation of services into the AOR."[19]

It is apparent that despite great IMA support, there is room for improvement.

The build-up in troops and the ramp-up in services was gradual. The six months between initiation of Operation Desert Shield and the launch of the ground attack on 24 Feb 1991 provided sufficient time to resolve the problems enumerated above. According to personnel at the Defense Information Systems Agency (DISA) Operation Center, procedures were smoothed out only when service requirements were passed through the CENTCOM J6 for approval before DECCO began the contracting process.[20] Given the need for increased emphasis on inter-service and agency IMA planning, much of the planning and coordination between civilian

contractors, the military, and the host nation could have been accomplished when contingency plans were first developed.

Despite the lack of pre-planned resources, DISA, through DECCO, was able to respond to CENTCOM because they had established close working relationships with commercial vendors. These relationships were forged through years of establishing requirements and contracting to support pre-planned exercises. The DISA/DECCO relationships with IMA vendors were similar to the close working relationships between Air Mobility Command and the airlines. Relationships built on understanding, trust, and confidence contributed immeasurably to the successes of commercial airlift and commercial IMA.

IMPLEMENTATION

USAISC's intention in proposing the CRIS concept was to formalize the planning and coordination process between military organizations and civilian contractors. In the case of overseas contingency operations, the coordination might include contact with the host nation to confirm what IMA infrastructure would be available to support U.S. forces. More likely however, would be the identification of sufficient civilian resources that would be made available within each stage, but would not be committed to a plan, location, or contingency. The resources would be available for allocation based on directions from OJCS to DISA during the emergency or crisis. However, some of the same civilian IMA resources may be required to restore or supplement domestic

requirements in the event a national emergency or natural disaster coincided with military requirements. This could create a conflict.

The CRIS concept recognizes the need to coordinate the use of IMA assets with the National Communications System (NCS). Understanding the organizational relationships and responsibilities within the Department of Defense and those of the NCS is essential to assessing the viability of the CRIS concept. The NCS was created in 1963 in the aftermath of the Cuban missile crisis. President Kennedy directed by Presidential Memorandum, "Establishment of the National Communications System." Fearing a confrontation with the Soviets, he directed the creation of the National Communications System "to provide the necessary communications for the Federal Government under all conditions ranging from a normal situation to national emergencies and international crisis, including nuclear attack."[21]
The NCS continues to operate today by the direction and authority of Executive Order (E.O.) 12472, "Assignment of National Security and Emergency Preparedness Functions." E.O. 12472 was signed by President Reagan in 1984 and reconfirmed by President Bush in 1991.

The NCS is responsible for national security and emergency preparedness (NS/EP) telecommunications for the United States. It is responsible for building survivability features into government and commercial telecommunications networks and promoting interoperability within various systems. NCS's primary goal is the meshing of the assets of 23 federal departments and agencies with

major corporations providing commercial telecommunications services within the country to provide a survivable national system. NCS members include:

Department of State	Department of the Treasury
Department of Defense	Department of Justice
Department of the Interior	Department of Agriculture
Department of Commerce	Department of Health and Human Services
Department of Transportation	Department of Energy
Organization of the Joint Chiefs of Staff	General Services Administration
United States Information Agency	National Aeronautics and Space Administration
Veterans Administration	Federal Emergency Management Agency
Federal Communications Commission	Nuclear Regulatory Commission
United States Postal Service	Federal Reserve System
National Security Agency	National Telecommunications and Information Administration[22]

The role of the NCS is even more critical since the divestiture of AT&T and the creation of smaller companies that must work together to maintain and reconstitute the public switched network in the event of an emergency or crisis.

E.O. 12472 assigns specific responsibilities to agencies of the federal government. The policy direction comes from the President and the National Security Council. The E.O. directs the National Security Council to advise and assist the President in "coordinating the development of policy, plans, programs, and standards for the mobilization and use of the Nation's commercial, government, and privately owned telecommunications resources, in order to meet national security or emergency preparedness requirements."[23]

Another office with major responsibilities for NS/EP telecommunications is the Office of Science and Technology Policy (OSTP). The Director of OSTP is responsible for providing

> "advice, guidance, and assistance, as appropriate to the President and to those federal departments and agencies with responsibilities for the provision, management, or allocation of telecommunications resources during those crises or emergencies in which the exercise of the President's war powers functions is not required or permitted by law;"[24]

The executive order also directs OSTP to establish a Joint Telecommunications Resources Board (JTRB). The JTRB is chaired by the Director, OSTP and consists of six members including the Assistant Secretary of Defense for C^3I and the Manager, NCS.[25] One of the functions of the JTRB is to "consider non-wartime emergency telecommunication policies and procedures."[26]

DoD officials have key responsibilities for the functioning of the NCS. In particular, the Secretary of Defense is designated as the Executive Agent for the NCS. He is tasked with overall responsibility for coordinated operations and technical planning to ensure the system functions to meet the needs of the federal government in wartime or peacetime. The Secretary is assisted in this function by the Assistant Secretary of Defense for Command, Control, Communications, Intelligence (C3I), who also controls DISA.[27]

The other key DoD official is the Manager of the NCS, who is also the Director, DISA. The Office of the Manager, NCS is co-located with DISA and gets administrative and logistical support from DISA. The Office of the Manager, NCS is unique in that its

power emanates directly from the President through the Executive Agent. Member organizations provide considerable staff support. The Manager is responsible for coordination, planning, and provision of NS/EP communications for the federal government under all circumstances, including crisis or emergency, attack, recovery and reconstitution.[28]

The Director, DISA wears at least two hats. On the one hand, he is responsible for planning, developing, and supporting command, control, communications (C3), and information systems that serve the needs of the National Command Authorities (NCA) under all conditions of peace and war. He provides guidance and support on technical and operational C3 and information systems issues affecting the Office of the Secretary of Defense (OSD), the Military Departments, the Chairman of the Joint Chiefs of Staff, the Unified and Specified Commands, and the Defense Agencies. On the other hand, he also supports NS/EP telecommunications functions of the National Communications System (NCS) as prescribed by E.O. 12472.[29] DISA has regional offices in Europe, Hawaii, Korea, and Japan to facilitate coordinating, engineering, and contracting DoD commercial services.

Subject to the direction, authority, and control of OSDC3I, Director, DISA is responsible to the Office of the Joint Chiefs of Staff (OJCS) for requirements associated with the joint planning process. The Combatant CINCs forward requirements to the OJCS for validation prior to coordinating with DISA. The OJCS can communicate directly with and may task the Director, DISA.[30] The

OJCS is one of the 23 member federal agencies supporting the NCS and can support NS/EP with organizations like the Joint Communication Support Element (JCSE).

The Unified and Specified Commands operating DoD IMA assets provide support to and are supported by DISA. Their telecommunications and information systems are incorporated into various defense networks. As components of the networks, these systems constitute DoD support to the NCS. The Unified and Specified Commanders receive planning support and technical assistance from DISA to ensure their requirements are compatible with DoD systems. To ensure adequate and timely support to the CINCs, DISA has field offices including DISA-McDill, DISA-PAC, DISA-EUR, and DISA-FORSCOM. DISA also provides contracting support through DECCO-EUR and DECCO-PAC. The Director, DISA oversees organizations that support the CINCs with DoD and commercial resources. The Director, DISA in his role as Manager, NCS can use DoD assets to support NS/EP when approved by the Sec Def.

Each military Services has its own communications organizations that support and are supported by DISA. These military communications and information organizations vary greatly in size, structure, and mission. The organizations provide IMA systems to the individual services which in turn respond to the CINCs requirements. At the strategic and theater level, the systems are integrated to form a defense network. DISA is responsible for ensuring the end-to-end interoperability of strategic and tactical command, control, and communications and

information systems used by DoD for joint or combined operations. USAISC is the Army's senior communication and information systems organization and is responsible to DISA to ensure that Army systems support and are compatible with defense networks.

The CRIS concept supports E.O. 12472 and would not require new legislation. Lieutenant Colonel Carl Winbauer, a legal counsel for the NCS confirmed the CRIS concept would support NS/EP and therefore would be under the legal umbrella of the existing E.O.. He also advised that since the primary focus of CRIS was the identification of commercial IMA sources to support the military services, the Secretary of Defense (Sec Def) must support the concept and agree to provide the necessary additional DoD funds to support the CRIS program. NCS would not provide funding even though they could benefit from implementation of the concept.[31]

Convincing the NCS Executive Agent (Sec Def) of the necessity for CRIS is key to concept approval. E.O. 12472 directs the Secretary to

> "ensure that the NCS conducts unified planning and operations, in order to coordinate the development and maintenance of an effective and responsive capability for meeting domestic and international national security and emergency preparedness telecommunications needs of the federal government."[32]

Under the CRIS concept, an USAISC mission would be to develop NS/EP requirements with CINCs and major commands.

DISA can initiate the approval process. According to E.O. 12472, the Manager, NCS (Director, DISA) is supposed to develop for consideration by the NCS Committee of Principals (COP) and the Executive Agent,

> "plans and procedures for the management, allocation, and use, including the establishment of priorities or preferences, of federally owned or leased telecommunications assets under all conditions of crisis or emergency;"[33]

If the Director, DISA feels CRIS would substantially enhance support for military IMA requirements, he can propose the concept to the Sec Def emphasizing that the concept also supports NS/EP requirements.

If the Sec Def is convinced that the CRIS concept would significantly improve the national security and emergency preparedness posture of the United States, and that it would increase the ability of the Armed Forces to fight and win, he has the authority to implement only a portion of the concept. He can direct, through the Service Secretaries, that USAISC, as an operating command of DISA be responsible for the identification, organization and development of sources of civil information systems readily available to augment the sustaining base or strategic/theater information systems in an emergency. The mission could include technical engineering and integration support to Unified and Specified Commands. The Sec Def has the authority to direct this much of the concept.

The Sec Def must seek approval from OSTP for that portion of the concept related to the activation of IMA support by stages. The concept must be presented to the JTRB for consideration since the JTRB is concerned with plans supporting contingencies short of war. Both the Assistant Secretary of Defense for C3I and the Manager, NCS are members of the JTRB. Either of them could present

the concept. The Director, OSTP who is also the Chairman, JTRB can approve the staging concept and direct its incorporation into Telecommunications Service Priority (TSP) system established under E.O. 12472. The TSP provides for prioritization of restoral or provisioning of NS/EP services supporting critical requirements of NS/EP users. Priority requirements include command and control of military forces, collection, processing and dissemination of intelligence, military mobilization, and others essential to maintaining optimum defense.[34]

The JTRB would be interested in the CRIS concept only because of CRIS's potential for supporting other NS/EP functions under the purview of NCS. A senior policy analyst with the Office of Science and Technology Policy, John R. O'Neil, indicated that CRIS would contribute to the accomplishment of the NS/EP mission in E.O. 12472. Mr. O'Neil is an attorney concerned with the legal aspects of policy within OSTP. It was his opinion that CRIS would fulfill requirements for military contingencies for DoD and would provide IMA assets for other NS/EP functions under the NCS. In particular, he felt that the Federal Emergency Management Agency (FEMA), a member agency of the JTRB, would be interested in the CRIS concept.[35] FEMA is responsible for the coordination of various federal agencies and programs in response to domestic emergencies.

The CRIS concept has advantages and disadvantages. It offers advantages besides providing state-of-the-art commercial equipment and complete services, including trained operators and maintenance. A program such as CRIS, which can be executed by stages, would

enable DoD to know exactly what IMA assets are available in each stage. Knowing what services are available to meet contingency plans allows the supported and supporting CINCs to identify alternatives to accommodate the shortfalls. The optimum solution would be to identify commercial IMA services to perform specific missions and coordinate the missions with a contractor in advance. Shortages of equipment or services to meet unique requirements could be contracted and created, if they do not exist.

Another advantage of the USAISC concept for CRIS is that USAISC has extensive experience in the planning and operation of theater level communications in support of all services. DISA is focused on planning and executing strategic architectures that interface with theater assets. USAISC would be a logical organization for theater IMA resourcing. USAISC experience in providing theater IMA support in both Europe and the Pacific regions demonstrates its ability to support the CINC requirements in a developed theater.

The CRIS concept also has some disadvantages. First and most important is the monetary cost to implement the concept. In order to ensure commercial IMA services availability on short notice, the government will have to enter into a contract providing some incentive to the companies. In the case of CRAF, the participating airlines receive government subsidies and are awarded contracts to provide routine charter service to support DoD. If a contract for IMA services is not in place, there is no guarantee a contractor will provide services, and consequently, the CRIS concept has no

advantage over contracting as done during Desert Storm. If a service is put on retainer but never called into use, the investment is wasteful.

A second disadvantage is that the CRIS mission will increase USAISC operating expenses. The amount of the increase cannot be determined until the workload of the new mission is translated into manpower and administrative support costs. If USAISC can absorb this mission with no increase in funding, then it is overfunded for its present mission. A substantial increase in USAISC funding is a disadvantage.

The physical location of USAISC at FT. Huachuca, Arizona, is also a disadvantage. While the ability to easily communicate anywhere in the world exists, the post's geographical remoteness hinders coordination with the Unified and Specified Commands, OJCS, DISA, NCS and potential IMA commercial contractors. The CRIS mission could better be executed from a more centralized location, such as the Washington, D.C. area.

RECOMMENDATIONS/CONCLUSION

The CRIS concept fails to identify the problem it will solve. Why institute a program to solve a problem if there is not a problem to solve? The CRIS concept creates a mechanism for providing more commercial IMA support during peacetime and wartime. However, experience indicates there is no peacetime or wartime shortage of IMA resources. DECCO had no difficulty providing resources to support Desert Shield/Desert Storm. Before proposing

the concept, USAISC must prove there is a shortage of DoD IMA resources and that commercial contractors are unwilling or unable to provide supplemental services to support DoD. The CRAF program was instituted to provide supplemental strategic airlift because the Air Force recognized they did not have enough lift. Before creating a program to ensure civilian IMA services are available, ISC must demonstrate there really is an insoluble IMA problem despite optimum utilization of military resources and adequate planning.

The concept proposal must articulate the cost of the program in manpower and dollars. Assuming there is a problem to solve, what is it going to cost to implement the CRIS program? USAISC must demonstrate CRIS is the best, most cost effective solution to the IMA problem. The DoD is looking for ways to reduce costs and manpower. This concept has a cost rather than a savings. The concept needs to articulate what the approval of this concept by Sec Def is going to cost DoD. If the concept provided sufficient commercial IMA resources to allow reductions in the Active or Reserve Components, that should be emphasized in the concept. A savings in military force structure and acquisition might justify the additional cost of CRIS.

The expression, "if it ain't broke, don't fix it", is applicable in this instance. Desert Shield/Desert Storm was a success. One of the real success stories was the ability of DISA to meet the telecommunications and automation needs of CENTCOM. While there may have been technical problems that made services

less than perfect, there was no shortage of commercial services. When the CENTCOM J6 identified the commercial requirement, DECCO contracted the service and the contractors responded. If the use of commercial IMA becomes standard operating procedure, the mission, planning, and contracting of those services should remain with DISA, a joint headquarters, adequately staffed and strategically located with a demonstrated ability to execute the mission.

While the idea of using commercial IMA services is clearly a good solution to support DoD requirements, the proposal by USAISC to become the single manager is not. If the combatant CINC J6 staffs identify shortfalls in military resources and pass them through OJCS to DISA, the existing DECCO resource pool should be able to meet the requirements. If resources are not available, then DISA can identify options which could include using the resources of other members of NCS. Ease of NCS coordination is a good reason to leave the mission with DISA. DISA represents the single agency already resourced, empowered, and functionally capable to integrate IMA support for all contingency and NS/EP crises. There is no need to reassign this function.

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